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06CS/IS761

Seventh Semester B.E. Degree Examination, January 2013

C# Programming and .NET

Time: 3 hrs.

Max. Marks:100

Note: Answer FIVE full questions, selecting at least TWO questions from each part.

PART – A

1. a. Explain the following common type system: (08 Marks)
 i) Class ii) Structure iii) Delegate iv) Members
 b. Briefly explain the core features of .NET. (06 Marks)
 c. Briefly explain the features of C# language. (06 Marks)
2. a. Explain the following output options of the C# compiler csc.exe: (08 Marks)
 i) /out ii) /target : exe iii) /target : library iv) /target : module
 v) /target : winexe vi) /doc vii) @ viii) /main
 b. What is response file in C#? Why it is used? Create a response file with a name TestApp.rsp, and show how it is used to build applications. (04 Marks)
 c. Explain any eight C# preprocessor directives. (04 Marks)
 d. Write a C# program to display the current .NET development machine details. (04 Marks)
3. a. Mention the different form of main methods in C# and explain why its type signature contains public and static keywords. (04 Marks)
 b. Write a C# program to accept three numbers from the command line, and print the biggest. (02 Marks)
 c. Explain the method parameter modifiers in C# with code snippets. (12 Marks)
 d. Explain the following methods of System.Object: (02 Marks)
 i) Equals () ii) Finalize ()
4. a. List the differences between value type and reference type in C#. (06 Marks)
 b. Explain the two techniques to preserve the integrity of state data in C#, illustrate with code snippets. (06 Marks)
 c. Explain the two forms of relationships in C# inheritance with a real world examples. (04 Marks)
 d. In C# how you can determine whether a given base class reference is actually referring to a derived type or not? Illustrate with code snippets. (04 Marks)

PART – B

5. a. Define bugs, errors and exceptions with examples. (03 Marks)
 b. Name the two descendent classes of System.Exception class and define their roles. (03 Marks)
 c. Mention the rule of thumb when you are constructing multiple catch blocks for a single try block, illustrate with code snippets. (04 Marks)
 d. Mention the rules of .NET memory management, and explain in detail how CLR performs a garbage collection. (10 Marks)

Important Note : 1. On completing your answers, compulsorily draw diagonal cross lines on the remaining blank pages.
 2. Any revealing of identification, appeal to evaluator and /or equations written eg, 42+8 = 50, will be treated as malpractice.

- 6 a. How shallow copy and deep copy of an object is achieved in C#? Write a programs in C# to demonstrate both. (05 Marks)
- b. List the member functions of queue and stack classes. Write separate programs to demonstrate both. (07 Marks)
- c. List the interfaces of System.Collections namespace and briefly explain their roles. (08 Marks)
- 7 a. Briefly explain the following:
- i) Callback interfaces
 - ii) C# delegate keyword
 - iii) C# event keyword (05 Marks)
- b. Illustrate the use of callback interfaces with a C# program. (10 Marks)
- c. Write a program in C# to illustrate how delegate object is used to call methods dynamically. (05 Marks)
- 8 a. Briefly explain the benefits of .NET assemblies. (05 Marks)
- b. Compare private and shared assemblies. (03 Marks)
- c. Mention the major elements of .NET binaries, and explain each. (10 Marks)
- d. Briefly explain the types of views of an assembly. (02 Marks)

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